A Case Report of Neurocysticercosis at Sanglah Hospital, Denpasar, Bali

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Abstract. We reported one neurocysticercosis (NCC) case who visited neurological outpatient clinic of Sanglah hospital, Denpasar, Bali. The patient is a 46-year-old man from Sumba, East Nusa Tenggara Province, and eastern part of Indonesia. The main symptoms of patient was headache and history of epileptic seizures, and spastic monoparesis on left lower limb. Diagnosis and follow up patient was performed clinically including CT scan and serologically. Detection of specific antibodies to *Taenia solium* in serum was performed by ELISA and immunoblot using native and recombinant antigens.

Key words: Neurocysticercosis, Sanglah Hospital, Bali

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INTRODUCTION

Bali is one of three known endemic provinces for taeniasis/cysticercosis in Indonesia.[1,2] Cases of *Taenia solium* taeniasis, subcutaneous cysticercosis and neurocsticercosis were reported during 1960-2014[3]. Cases with taeniasis and cysticercosis have also reported from East Nusa Tenggara Province, eastern part of Indonesia[2,4]. In this report, we describe one neurocysticercosis (NCC) case who visited neurological outpatient clinic of Sanglah hospital, Denpasar, Bali a few years ago.

CASE REPORT

A 46 years-old man, Waikabubak, Sumba, East Nusa Tenggara Province, eastern part of Indonesia, visited neurological outpatient clinic, Sanglah hospital with history of headache, focal tonic clinic seizures on left lower limb followed by generalized seizures. He also complained a weakness on left lower limb and deteriorated gradually. He had been taken 600 mg carbamazepin and 60 mg phenobarbital dailies for 3 years. On general examination, there was no abnormality in respiratory and cardiovascular systems. A detailed neurological examination revealed that he presented spastic monoparesis on left lower limb with muscle strength 4, atrophy and hyper reflexia. Funduscopy showed papil oedema bilaterally. Laboratory data included routine blood tests, eosinophils and faecal examination were normal. CT scan showed multiple cystic lesions with scolex (Figure 1a). Serological examination (ELISA and immunoblot) was positive (Table). The patient was diagnosed as definitive neurocysticercosis (NCC). He refused to be hospitalized, however we treated him with 800 mg albendazole for one month, 15 mg dexametasone, 600 mg carbamazepin, and 200 mg phenobarbital dailies, respectively. The patient was free of seizures for 2 months. However around one month after treatment, he suffered from two episodes of seizures on left lower limb for last 3 minutes. Repeated treatment was performed with 800 mg albendazole daily for one month, and 3 month afterwards CT scan showed multiple cystic lesions with scolex and one cystic lesion was degraded to calcified lesion (Figure 1b). No serum sample was available for serological evaluation of this patient.

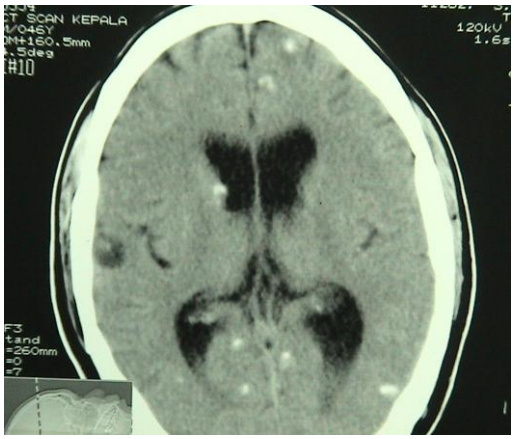

Figure 1a.

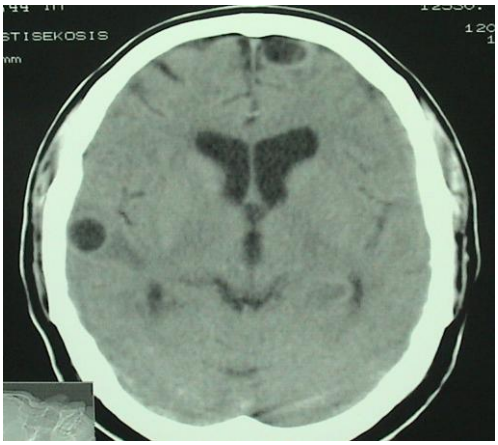

Figure 1.b

Tabel 1. Serological examination for detection of antibodies against *T. solium* cysticercosis by both ELISA (using native with different glycoprotein *T. solium* and recombinant antigens) and immunublot.

NCC Case	ELISA OD Value, 405 nm (+/-)				Immunoblot
	Native antigen			Recombinant Antigen Cutt off=0.093	
	Asian Genotype Cut of =0.051	American Genotype Cut of =0.071	African Genotype Cut of =0.072		
Patient	0.057 (+)	0.191 (+)	0.099 (+)	0.191 (+)	Positve

NCC=Neurocysticercosis

DISCUSSIONS

We examined one patient of neurocysticercosis at Sanglah hospital, Denpasar, Bali. The patient from East Nusa Tenggara, eastern part province of Indonesia which is also known as sporadic province for taeniasis/ cysticercosis.[9]

The main symptom of patient was headaches, history of epileptic seizures for 8 months years duration, and spastic monoparesis on left lower limb.

CT Scan was found cystic lesions with bright nodule within the cyst, identified as scolex, they were diagnosed as definitive NCC.

Serological examination for detection of antibodies against *T. solium* cysticercosis revealed that the patient was positive by both ELISA (using native with different glycoprotein *T. solium* and recombinant antigens) and immunublot (Table). Follow up serology was found still positive. It was suggested to repeat serology tests of this patient in next 1 or 2 years, and as such would be expected to be negative (Sudewi et al, unpublished data).

Considering of the imaging techniques can not possibly show typical figures of neurocysticercosis, this examination is still high cost for most people in developing countries[13], and in case where cerebrospinal fluid (CSF) is unavailable due to the patients refused spinal tap examination, serological examinations to detect antibody in serum samples are to be useful not only for supporting diagnosis, but also follow up patients. Recently, sensitivity and specificity of ELISA and immunoblot are developed[14], for detects specific antibodies either in sera or CFS, although the limitation of this test is can be false negative result in patient with single nodule or inactive lesion.

Albendazole was effective treatment for NCC patients with viable cysticerci and seizures have been controlled with phenytoin.

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